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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/076,273 | 02/19/2002 | Masatoshi Fujimoto | 046124-5114 | 1054 |
| 9629 | .7590 | 03/18/2004 | EXAMINER | |
| MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004 | | | RICHARDSON, JOHN A | |
| | | | ART UNIT | PAPER NUMBER |

3641

DATE MAILED: 03/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

10/076,273

Applicant(s)

FUJIMOTO ET AL.

Examiner

John Richardson

Art Unit

3641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Non Final Rejection

1). The applicant's request for continuing examination (RCE) in Paper No. 10 dated December 31 2003 is acknowledged.

2). 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3). The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4). The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5). Applicant's arguments filed in Paper No.8 have been fully considered but they are not persuasive. The examiner makes the following general comments:

1. The presentation of new Information Disclosure Statements as a vehicle to interpret the original specification disclosure is improper.
2. The application of new Information Disclosure Statements to define over the examiner's objections and rejections is improper if not supported by the original specification disclosure.
3. The applicant's foreign patent reference for Japan No. 234169/1999 has a publication date of August 20 1999, whereas the Certificate of Verification date for the English translation is dated December 18 2003. The applicant is required to provide a translation dated prior to the examiner's first action on the merits, Paper No. 3, for the instant application.
4. The Paper No. 9, Declaration under 37 C.F.R. 1.132 cannot be used as a means of interpreting the original specification disclosure.

The applicant's arguments are individually responded to under the 112/1st Objections and Rejections, and 101, 102(b) Rejections as detailed in the following sections.

6). The specification is objected to under 35 U.S.C. 112, first paragraph, as failing to provide an adequate written description of the invention and as failing to adequately teach how to make and/or use the invention, i.e., failing to provide enabling disclosure, for the reasons set forth in Office action, Paper No. 3, item 7, and Office action, Paper No. 5, item 5).

Applicant's arguments filed in Paper No. 8 have been fully considered but they are not persuasive.

- Pages 3- 6, of Paper No. 8, the applicant's direction to the original specification, page 8, for support of "a region in which the described nuclear reaction occurs is very small" is not considered valid and is considered as new matter; a detailed review by the examiner of pages 8, 9 of the original specification does not support the applicant's statement. The 37 C.F.R Declaration statements in this respect are discussed separately by the examiner.
- Pages 6-9, of Paper No. 8, the applicant's original disclosure specification referred to "pulse laser light L-12 of **high peak power** (emphasis added) for lasers with pulse width of 30fs and energy per pulse of 200mJoule (see original specification, page 8, lines 4-13). The applicant in Paper No. 4, page 5, introduced the "instantaneous maximum output of 7TW". As stated in previous office actions, this is considered to be new matter not supported by the applicant's original specification.
- Pages 11- 12, of Paper No. 8, the applicant alleges that the 37 CFR 1.132 Declaration, verifies the applicant's claimed invention for the generation of

“nuclear reactions” based on the presence of O-16, and N-13. It is the examiner’s position that in fact the 37 CFR 1.132 Declaration by Dr. Okuno, in particular paragraph 9), states without qualification that Dr. Okuno is **“not aware of any previous disclosure”** of a nuclear reaction for generating a radioisotope in which water molecules are used as a nuclear reaction target, and also in relation to the O-16 and N-13 reactions, and in addition, Dr. Okuno limits his comments to only the **“possibility”** of such reactions from the use of a laser which cannot be considered in any way a verification of the applicant’s invention.

- Pages 9-16, of Paper No. 8, the applicant has made comments relating to the use of lasers in water environments and appears to be stating that for water environments the claimed results as disclosed for example on page 34, lines 1-8, of the original specification will apply. It is the examiner’s position that for example, in the reference of record, Whittlesey (U.S. 3,378,446), wherein water liquid droplets are incorporated in a laser environment (see for example, Whittlesey, Column 4, lines 7-22), there is no evidence of the production of neutrons. The applicant has also made reference to a group of references that purport to replicate or support the applicant’s claimed invention; it is the examiner’s position that these references at best provide reports on a range of laser experiments and the performance of separate components in the laser art, and that these experiments are not representative of the applicant’s invention in so far as this can be determined from the information provided in the original specification.

In summary, it is thus considered that the examiner (for the reasons set forth above and in Office actions Papers 3 and 5) has set forth a reasonable and sufficient basis for challenging the adequacy of the disclosure. The statute requires the applicant itself to inform, not direct others to find out for themselves: In re Gardner et al, 166 USPQ 138, In re Scarbrough, 182 USPQ 298.

7). Claims 1, 2 are rejected under 35 U.S.C. 101 because the disclosed invention is inoperative and therefore lacks utility for the reasons set forth in Office action, Paper No. 3, item 8, and Office action, Paper No. 5, item 6).

The reasons the invention as disclosed is inoperative are the same as the reasons set forth in section 6) above as to why the specification is objected to and the reasons set forth in section 6) above are incorporated herein.

Applicant's arguments filed Paper No. 8 have been fully considered but they are not persuasive. In particular the examiner responds as follows:

- The examiner has reviewed items 7-14 of the Paper No. 10 - Information Disclosure Statement, in search of the applicant's alleged "sufficient substantiating evidence of operability" basis of the claimed invention. None of these references support the applicant's isotope production

reactions, for example, as stated in the equations of page 34, lines 3-8, of the original specification.

- From examination of the Paper No. 10 - Information Disclosure Statement, references it appears the applicant is relying on an aggregate of individual component performances to support the operability of the claimed invention. The applicant has the obligation to show, if indeed such individual components are representative of the claimed device, how such components can be combined to support the claimed operational aspects to produce the claimed results.

From the information in Paper No. 8 there is no reputable evidence of record to indicate the invention has been reduced to the point of providing in current available form, an operative nuclear fusion device based on directing an optical laser light at a water source in a vacuum vessel produce radioisotopes.

The applicant at best, has set forth what may be considered a concept or an object of scientific research. However, it has been held that such does not represent a utility within the meaning of 35 USC 101, See *Brenner v. Manson*, 148 USPQ 689.

Additionally, it is well established that where as here, the utility of the claimed invention is based on allegations that border on the incredible or allegations that would not be readily accepted by a substantial portion of the scientific community, sufficient substantiating evidence of operability must be submitted by the applicant. Note *In re Houghton*, 167 USPQ 687 (CCPA 1970), *In re Ferens* 163 USPQ 609 (CCPA 1969), *In*

Art Unit: 3641

re Puharich v. Brenner, 162 USPQ 136 (CADC 1969), In re Pottier 152 USPQ 407 (CCPA 1967), In re Rushkin, 148 USPQ 221 (CCPA 1966), In re Citron, 139 USPQ 516 (CCPA 1963), and In re Novak, 134 USPQ 335 (CCPA 1962).

8). Claims 1, 2 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The reasons that the invention as disclosed is not enabling are the same as the reasons set forth in section 6) above as to why the specification is objected to and the reasons set forth in section 6) above are accordingly incorporated herein.

9). Claims 1, 2 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application

was filed, had possession of the claimed invention, for the reason's set forth in office action Paper 3, item 10, and Office action, Paper No 5, item 8).

Applicant's arguments filed Paper No. 8, pages 17-19 have been fully considered but they are not persuasive. Specifically, the applicant has directed the examiner to references 7-14 of the Paper No- 10 - Information Disclosure Statement - to support the specifics of the claimed invention. It is the examiner's position that a) none of the references support the applicant's claimed isotope production reactions as shown for example in the equations contained on page 34 of the original specification, and b) at best the references provide a source of information of experimental data for individual laser configurations in a variety of applications, but fail to teach or disclose how such individual laser components can be combined to produce the applicant's claimed results.

10). Claim 1, 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Whittlesey (U.S. 3,378,446) for the reasons set forth in Paper No. 3, item 12, and Office action, Paper No. 5, item 9.

Applicant's arguments filed in Paper No. 8, pages 19-20, have been fully considered but they are not persuasive. The following responses are provided:

- In particular, the applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant

relies (i.e., **nuclear reactions collection system, collecting section that collects the reaction product, and plurality of laser irradiations**) are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

- The applicant's claimed invention in claim 1, lines 15-18, states the limitation of **"a product nucleus collecting section for collecting a molecule having a nucleus"**, whereas the argument's in the applicant's Paper No. 8, pages 19-20, states that claim 1 includes the limitation of **"a collection arrangement for other nuclear reactions"** and **"a collecting section that collects the nuclear reaction product"**. The above Paper No. 8 statements are considered to be inconsistent with the claim 1 language.
- It is the examiner's position that the applicant's claimed invention of laser irradiation of water molecules is disclosed in the Whittlesey patent (see for example, Column 1, lines 44-54, Column 4, lines 4-23) arrangement configuration, and that in this instance the reference disclosure does not result in the applicant's claimed generation of radioisotopes.

For the reasons set forth above and for those set forth in Office action Paper No. 3, item 12, and Office action, Paper No. 5, item 9, claims 1, 2 are rejected.

11). Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Hedstrom (U.S. 3,762,992) for the reasons set forth in Paper No. 3, item 13, and Office action, Paper No. 5, item 10.

Applicant's arguments filed in Paper No. 8, pages 21-22, have been fully considered but they are not persuasive. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the following features upon which applicant relies are not recited in the rejected claims:

- Rapid collection of the reaction product.
- Collection of a useful radioactive isotope.
- High-threshold nuclear reaction.
- Indispensable technology.
- Reaction product that has a short half life period.

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

For the reasons set forth above and for those set forth in Office action Paper No. 3, item 13, and Office action, Paper No. 5, item 10, claims 1, 2 are rejected.

12). The Declaration under 37 CFR 1.132 filed in Paper No. 9 is insufficient to overcome the rejection of claims 1, 2 based upon 35 U.S.C. 112, first paragraph, lack of utility and operativeness under 35 U.S.C. 101 as set forth in the last Office action because: It refers only to the system described in the above referenced application and not to the individual claims of the application. Thus, there is no showing that the objective evidence of nonobviousness is commensurate in scope with the claims. See MPEP § 716.

Relating to the specific declarations made by Professor Okuno, the examiner notes the following:

1. D-1 reference by Pretzler et al, is purported to support the applicant's original disclosure; this is not considered persuasive based on the fact that the Pretzler reference because for example, does not incorporate a high vacuum operating conditions, and the stated laser intensity (watts / cm²) is not consistent with the applicant's disclosure, and in addition the metrics used in the Pretzler reference of laser intensity and laser intensity at a specific focal point are not provided in the applicant's original disclosure specification.
2. D-2 reference by Ditmire et al, does not relate to isotope generation and the parameters of laser intensity and laser intensity at a specific focal point are not provided in the applicant's original disclosure specification.
3. D-3 reference by Spencer et al, the parameters of laser intensity and laser intensity at a specific focal point are not provided in the applicant's original

disclosure specification, and the targets stated in the reference, aluminum, silicon dioxide, are not included in the applicant's original specification disclosure.

4. The Declaration in items 9-17 alleges the possibility of incorporating some of the applicant's invention without providing any operational evidence of reproducing the applicant's claimed results and in fact states in item 9) of the Declaration, Professor Okuno states categorically that he is not aware of any previous disclosure of an arrangement for generating a radioisotope in which water molecules are used as the nuclear reaction target.
5. Reviewing the 21 reference included in Paper No. 10, the Declaration has failed to demonstrate that for the separate components being discussed in the field of laser irradiation, how and in what manner, even if such components relate to the applicant's invention, that such components can be combined to produce the applicant's claimed invention.

Art Unit: 3641

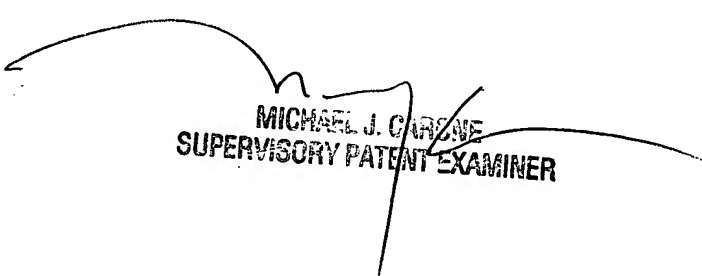
13). Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Richardson whose telephone number is (703) 305 0764. The examiner can normally be reached on Monday to Thursday from 7.00 AM to 4.30 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone, can be reached on (703) 306 4198. The fax phone number for the organization where this application or proceeding is assigned is (703) 305 7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 1113.

John Richardson, PE,

March 15 2004.


MICHAEL J. CARONE
SUPERVISORY PATENT EXAMINER